



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTE ON PROF. HALL'S QUERY IN VOL. VII, NO. FOUR.

BY PROF. ORMOND STONE.

As ∇v does not assume eight values at the surface of an attracting body, Todhunter does not give the explanation mentioned by Prof. Eddy in the last number of this journal. What Todhunter does say is that " ∇v is an aggregate of three terms, each of which has two values; so that there are in all eight combinations, of which one gives the value of ∇v agreeing with that found for an internal particle, and the other gives the value of ∇v agreeing with that found for an external particle; the other six remain without meaning." In other words, there are only *two* values of ∇v , namely, $-4\pi\rho$ and 0. The reason that the remaining combinations are "without meaning" lies in the fact, as I have before stated, that the second differential coefficients of v with regard to x, y, z are *not independent* of one another.

ANSWER TO QUERY (SEE PAGE 63) BY W. E. HEAL.—There are several methods of elimination between equations described in the query.

The following methods are explained in Salmon's Higher Algebra, third edition:—Elimination by Symmetric Functions, Elimination by Greatest Common Divisor, Euler's method, Sylvester's dialytic method, Bezout's method and Caley's statement of Bezout's method.

SOLUTION OF PROB. 338 (SEE P. 31) BY PROF. ORMOND STONE.—Let α and δ be the heliocentric right ascension and declination of the perihelion of the comet's orbit; the comet will evidently approach a point opposite the perihelion, i. e., a point whose right ascension and declination are $\alpha + 180^\circ$ and $-\delta$. To find α and δ , we have

$$\begin{aligned}\tan(\alpha - \varrho) &= \cos i \tan(\pi - \varrho), \\ \sin \delta &= \sin i \sin(\pi - \varrho),\end{aligned}$$

where i is the inclination of the orbit to the equator and $\pi - \varrho$ the distance of the perihelion from the node.

NOTE BY PROF. E. B. SEITZ.—Eq. (4) of Mr. Heal's solution of 334, p. 60, is wrong. From (1) and (2) we see that the tangents of the angles bet. the tang't lines and the axis of x are $-b \cos \theta \div a \sin \theta$ and $-b \cos \varphi \div a \sin \varphi$; hence by the formula for the tangent of the diff. of two angles

$$\tan \alpha = \left(\frac{b \cos \varphi}{a \sin \varphi} - \frac{b \cos \theta}{a \sin \theta} \right) \left(1 + \frac{b^2 \cos \theta \cos \varphi}{a^2 \sin \theta \sin \varphi} \right) = \frac{ab(\sin \theta \cos \varphi - \cos \theta \sin \varphi)}{a^2 \sin \theta \sin \varphi + b^2 \cos \theta \cos \varphi}.$$